September 20, 2019

Via Electronic Filing

Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

RE: *Misuse of Internet Protocol (IP) Captioned Telephone Service*, CG Docket No. 13-24; *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket No. 03-123

Dear Ms. Dortch,

The undersigned providers of Internet Protocol Captioned Telephone Service (IP CTS) and technology provider (the Working Group, or the Group) jointly update the Federal Communications Commission (Commission or FCC) on their significant progress towards developing IP CTS quality of service metrics, testing methodologies, and standards.

I. BACKGROUND ON THE IP CTS QUALITY METRICS WORKING GROUP

IP CTS has been a compensable form of Telecommunications Relay Service (TRS) for twelve years.[1] Currently, the Commission's "mandatory minimum standards" for IP CTS include, among others, certain operational standards, including that an IP CTS Communications Assistant (CA) must relay all conversation verbatim;[2] must be sufficiently trained to effectively meet the specialized communications needs of individuals with hearing and speech disabilities;[3] must have competent skills in typing, grammar, spelling, and familiarity with hearing and speech disability cultures, languages and etiquette;[4] and must possess clear and articulate voice communications.[5] Other operational and functional standards relate to the required confidentiality of calls,[6] and the ability of providers to handle types of calls that require multiple CAs.[7] Although the Commission has issued a Notice of Inquiry on IP CTS

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1 *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Declaratory Ruling, 22 FCC Rcd 379 (2007).

2 47 C.F.R. § 64.604(a)(2)(ii).

3 *Id.* § 64.604(a)(1)(i).

4 *Id.* § 64.604(a)(1)(ii).

5 *Id.*

6 *Id.* § 64.604 (a)(2).

7 *Id.* § 64.604 (c)(14).

quality of service issues,[8] to date the Commission has not adopted objective and quantifiable metrics, measurement tools, and standards for IP CTS which provide a meaningful understanding of the quality of service experienced by IP CTS users.

The Group first convened in the fall of 2017 to determine whether they would be able to collaboratively develop recommendations regarding the metrics, measurement tools, and, ultimately, objective performance standards that could govern all IP CTS providers going forward.

On August 21, 2018, the Group submitted its detailed recommendations for IP CTS Quality Metrics, which proposed use of accuracy and delay metrics as a starting point for an initial set of industry-wide quality metrics.[9] This ex parte filing complements the recommendations that have already been submitted by the Group.

The current participants in the Group are set forth below.

REPRESENTATIVE	IP CTS COMPANY	EMAIL
DIXIE ZIEGLER	Hamilton	dixie.ziegler@hamiltonrelay.com
JEFF KNIGHTON	Hamilton	jeff.knighton@hamilton-innovations.com
BRUCE PETERSON	CaptionCall	bpeterson@captioncall.com
DAVID THOMSON	CaptionCall	DThomson2@captioncall.com
MIKE MADDIX	Sorenson Communications	mmaddix@sorenson.com
CRISTINA DUARTE	InnoCaption	cristinaduarte@innocaption.com
MIKE STRECKER	ClearCaptions	mike.strecker@clearcaptions.com
RITA BEIER	ClearCaptions	rita.beier@clearcaptions.com
STEPHANIE SUCKOW	ClearCaptions	stephanie.suckow@clearcaptions.com
DENNIS SELZNICK	Sprint	dennis.a.selznick@sprint.com
CHRISTOPHER ENGELKE	Ultratec	christopher.engelke@ultratec.com

[8] *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, Report and Order, Declaratory Ruling, Further Notice of Proposed Rulemaking, and Notice of Inquiry, 33 FCC Rcd 5800, ¶¶ 155-181 (2018) ("NOI").

[9] Letter from Bruce Peterson, CaptionCall, LLC; Cristina Duarte, MezmoCorp (dba InnoCaption); Michael Strecker, ClearCaptions, LLC; Dixie Ziegler, Hamilton Relay, Inc.; and Scott Freiermuth, Sprint Corporation, to Marlene H. Dortch, FCC Secretary, CG Docket Nos. 13-24 & 03-123, "IP CTS Quality Metrics: Provider Recommendations" (filed Aug. 21, 2018) ("Provider Recommendations").

II. PURPOSE

The Group desires to ensure high quality IP CTS services for all IP CTS users and regularly meets in person as well as through a scheduled weekly video conference to focus on how quality should be measured. In order to achieve this goal of excellent service quality, it is important to recognize the following:

1. Quality standards are essential to ensure that IP CTS consumers are receiving high quality services which meet their telecommunications needs. The FCC has implicitly recognized this in the pending NOI.[10] The Disability Advisory Committee (DAC) has emphasized this point in their recommendations to the Commissions.[11]

2. Policy decisions that concern quality metrics and standards must be based on data and, more specifically, based on data developed through best practices. To that end, it is critical that the Commission obtain data developed through a robust experimental design, including statistically representative sample sizes and valid research methods as discussed herein. Robust testing methodologies are likewise needed to monitor compliance with performance standards.

3. Samples used for testing must represent the wide range of actual IP CTS calls, users, and user experiences.

4. Testing must be performed and reported over a wide variety of call types. The use of aggregate data masks important variation in performance. Failure to test, score, and report on a variety of call types, involving a variety of callers and call conditions, risks harm to specific populations including, but not limited to, children, older adults, those with speech disabilities, and other individuals with less common accents. More research should be done to determine which populations should be represented in testing.

Recognizing the above, the Group determined that it is necessary to develop IP CTS quality standards based on comprehensive, uniform, objective, and replicable testing.[12] When this work has been completed and is statistically sound, the Group will recommend additional metrics (if any) and equitable, quantifiable quality standards for the IP CTS program. As set forth in the sections that follow, these efforts are arduous and may not be completed by the end of 2019.

III. MILESTONES

A high-level overview of the milestones the Group has accomplished to date follows.

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10 *NOI* ¶ 155.

11 Recommendation of the FCC DAC, IP CTS Quality Standards, CG Docket Nos. 03-123 and 13-24 (filed Sept. 23, 2016). *See, e.g.*, Recommendation of the FCC Disability Advisory Committee, Relay and Equipment Distribution Subcommittee: Internet Protocol Captioned Telephone Relay Service Metrics Recommendation ¶ 6 (adopted Oct. 3, 2018), https://docs.fcc.gov/public/attachments/DOC-354522A1.pdf.

12 To assist in these efforts, Ultratec joined the Group in early 2019.

1. Agreed on key IP CTS Quality Metrics, including accuracy and delay, and articulated basic definitions for same. These definitions are based on user perspectives and experiences.[13]
2. Established a testing methodology that can be replicated by a third party and adopted by the Commission if deemed appropriate, which further includes:
    i. A test design that includes the definition of specific roles and responsibilities designed to create test materials, manage the testing process, score calls and report on results in a way that ensures provider testing can be administered in a fair and unbiased way, regardless of captioning technology, because of reliance on pre-recorded conversation audio.
    ii. A standardized Transcription Guide to ensure consistency for test transcripts. This document dictates the rules for building transcripts from pre-recorded conversation audio. To ensure that testing is repeatable, scalable, and consistent, the Group has devoted significant time and attention to construction of a robust rule set that defines how word-for-word and like-for-like transcripts are built.
    iii. An IP CTS Quality Scorecard that reports on a variety of accuracy and delay related metrics across a number of call and speaker conditions. A scorecard approach can help provide a robust understanding of service quality.
    iv. An Initial Equivalency Table, as with the Transcription Guide, must be built considering the many ways a single word may be presented in text. For example, numbers can be spelled out, written as digits, or formatted as phone numbers or currency. This is an ongoing effort to ensure consistency in measurements and scoring.
    v. A scoring manual to identify the different types of errors and how to score each error.
    vi. New software tools to aid in the efficient collection of reliable and accurate information.
3. Agreed that an independent third party will conduct the testing on all participating IP CTS providers (the Testing Company). The Group has started to screen candidates. Funding for testing by the Testing Company will be provided by the Group.
4. Identified a reputable accounting firm to handle the administrative tasks related to the contract with the Testing Company.
5. Agreed to select the Testing Company before the end of 2019.

IV. PENDING OBJECTIVES

The Group has dedicated significant time and resources to this effort. The members of the Group are committed to continue this work going forward by:

1. Establishing a quantitative baseline of current IP CTS Quality for the core metrics of performance: accuracy and delay.

[13] *See* Provider Recommendations.

2. Sharing direction, focus and plans with consumer groups to ensure ongoing alignment with IP CTS user experiences.
3. Exploring collaborative opportunities with MITRE such as:
    i. Sharing and comparing methodologies to coalesce around and implement best practices.
    ii. Developing and managing an equivalency table to ensure consistency across all calls tested. This includes collaboration in the ongoing maintenance of equivalencies and transparency with its use.
    iii. Developing and sharing tools to support automation and administration of testing including test call recording and transcript capture.
4. Exploring the potential inclusion of additional quality metrics.
5. Organizing and preparing recommendations to the FCC regarding best practices for testing and reporting.
6. Publishing a request for proposal to perform testing.[14]
7. Making recommendations for quality performance standards for IP CTS.

V. CONCLUSION

The Group continues to work hard on developing an objective approach to testing that will yield uniform data and culminate in measurable minimum performance standards. These achievements, and this progress, have been possible because each participant has an in-depth understanding of IP CTS technology, including the unique features and limitations associated with the participants' operations. Indeed, the differences in hardware and software technologies across providers dictates that a collective effort must be made to adequately capture the full range of technical requirements that must be addressed in setting quality testing standards. The Group intends to invest additional time and resources to continue this work to meet the objectives described above, and to keep the Commission apprised of its progress.

Respectfully,

/s/ Dixie Ziegler
Dixie Ziegler
Vice President of Relay
Hamilton Relay, Inc.
1006 12th Street
Aurora, NE 68818
dixie.ziegler@hamiltonrelay.com

/s/ Cristina Duarte
Cristina Duarte
Director of Regulatory Affairs
Mezmo Corporation (dba InnoCaption)
14111 Robert Paris Ct
Chantilly, VA 20151
(571) 210-7687
cristinaduarte@innocaption.com

[14] We anticipate baseline testing would commence within 180 days of contract award.

/s/ Michael Strecker
Michael Strecker
Vice President of Regulatory and
Strategic Policy
ClearCaptions, LLC
3001 Lava Ridge Ct, STE 100
Roseville, CA 95661
(916) 274-8429
mike.strecker@clearcaptions.com

/s/ Bruce Peterson
Bruce Peterson
Vice President Government &
Community Relations
CaptionCall, LLC
bpeterson@captioncall.com

/s/ Scott Freiermuth
Scott R. Freiermuth
Counsel, Government Affairs
Federal Regulatory
Sprint Corporation
6450 Sprint Parkway
Overland Park, KS 66251
(913) 315-8521
scott.freiermuth@sprint.com

/s/ Kevin Colwell
Kevin Colwell
Vice President of Engineering
Ultratec, Inc.